

# ELABORATING A GLOBAL DIAGNOSIS OF A COMPANY IN METALLURGY INDUSTRY

Received – Prispjelo: 2013-07-11  
Accepted – Prihvaćeno: 2013-10-25  
Review Paper – Pregledni rad

In this paper, we developed a model of a global diagnosis, applicable to any company operating in the metal industry. Unlike other models used for this purpose (such as statistical models or models based only on financial variables) the proposed model has the advantage of being both an analytical and synthetic one reflecting different aspects that compose the business such as: legal, commercial, management, organization and human resources, technical, technological and exploitation, corporate social responsibility. The final rating of the company reflects the synthetic level of confidence that any stakeholders could have on the analyzed company. Results are also extremely useful for the manager in order to know the strengths, weaknesses, opportunities and threats of the business he runs.

**Key words:** metallurgical industry, economic, financial, diagnosis

## INTRODUCTION

The diagnosis activity of the company is extremely useful in any sector of the economy especially in priority sectors of the economy such as the metallurgical industry in Romania.

The word “diagnosis” is of Greek origin and means “able to discern”. [1]

Diagnosis may be defined as a complex research of the economic, technical, sociological, legal and managerial activities of an organization that identifies strengths and weaknesses, the causes that generated them and makes recommendations to eliminate or reduce the weaknesses and / or to highlight the strengths. The global diagnosis of a business consists in a handy tool that allows managers to formulate qualitative and / or quantitative value judgments about the state, dynamics and prospects of a business.

But not only managers are interested in the process. Investors want to know if the investment in the company will give back a good return. Shareholders want to know if they will maintain in the future the trust of their placement. Bankers will assess the creditworthiness for their clients assessing the risks that they assume.

Suppliers want to know if the short-term ability of their clients to pay debts allows them to continue the deliveries without risks. The state is interested in the company’s ability to provide taxes and duties. Local officials are concerned about preserving the economic network of their town or their region. Employees and their representatives in the syndicate or organization/union are interested in the fate of their job.

The metallurgical sector in Romania requires more than ever a diagnosis by which to identify strengths and weaknesses, opportunities and especially the threats

which are affecting this sector of activity. In spite of the systematic attacks that the metallurgy industry has undergone, it still remains an important source of revenue for the Romanian people, a significant contribution to Romanian GDP and an industry that provides about one tenth of the national economy export. [2]

## COMPONENTS OF A GLOBAL DIAGNOSIS

A general (global) diagnosis of the company shall incorporate at least the following components:

**Legal framework diagnosis** outlining the legal relations arising from the relation between the company and the stakeholders acting in relation to the company and which allows the assessment of risks related to the legal status of the entity.

**Commercial diagnosis** firstly aimed to characterize the company products and services and then highlights the competitive position of the company.

**Diagnosis of management, organization and human resources** which has the following objectives: a) Highlighting the main aspects of corporate governance; b) Highlighting key aspects of the company organization; c) Emphasizing how the company faces the demand for human resources and their efficiency.

**Diagnosis of technique, technologies and exploitation** refers to the following aspects: a) The depreciation level of buildings, machinery and equipment for work; the technical progress incorporated therein; value and structure of these; the way of access; the use of productive surfaces. b) The supply system of raw materials and its correlation with the type of production; percentage of rubbish. c) The organization of production flow, the degree of automation in production process; the technological pollution; production scheduling; production control; methods of production and labor organization of production; type and structure of products; quality of products.

M. V. Achim, Babeş-Bolyai University, Cluj-Napoca, Romania, S.N. Borlea, West Vasile Goldis University, Arad, Romania

**Diagnosis of the financial state** that aims to highlight the strengths and weaknesses of liquidity and solvency, debts; activity indicators, profitability, rate of return, stock performance, cash flows, risks.

**Diagnosis of sustainable performances** targeting the future coordinates of sustainable development for the metallurgical companies and how they adopt corporate social responsibility in relation with society (social performances) and in relation with environment (environmental performances).

## SOURCES AND METHODOLOGY FOR ASSESING A GLOBAL DIAGNOSIS OF COMPANY

In order to assess a global diagnosis of a company one uses the public information available on the company website as well as its own financial data on its financial activity, data from financial statements of the companies for a period of analysis of at least 3 - 5 years.

Among the specific methods of the diagnosis process there is widely used the SWOT analysis - Strengths, Weaknesses, Opportunities, and Threats method (in order to ensure a quality approach) in combination with the evaluation grids method (in order to assess a quantitative approach).

Specifically, the preparation stages for the global diagnosis of business are:

- Selecting the criteria for each specific area of diagnosis;
- Assessing qualitative and / or quantitative criteria of the investigated area;
- Reference levels are established for each selected indicators. For qualitative indicators (characterizing the legal area, the management and human resources quality, the equipment performance, the quality of products, the social and environmental performance) the reference levels are given by the catalogs of standard levels.

For the quantitative indicators (such as labor productivity, efficient use of assets and also the category of financial indicators) the reference values are the averages of the sector respectively the average of the metallurgical sector in Romania. For some financial indicators literature shows some optimum levels of achievement, generally available, which can be used by us as reference levels (eg. for liquidity ratios, solvency ratios, financial dependence, economic and financial risk).

- The establishment and parameterization of the evaluation grids of criteria depending on the level and trend of indicators is realized by using the following matrix:

- The values of the indicators are fitted with a state and trend and assign an appropriate score.
- The rating score of each diagnosed areas is determined as an average score as follows:

$$\bar{N} = \sum_{i=1}^n p_{ix} N_i \text{ where,}$$

- $\bar{N}$  represents the rating score found out for each of the six investigated areas;

Table 1 **Matrix aggregation by status and trend**

Trend/State	Critic	Weak	Mean	Good	Forte
Sudden improvement	3	3,5	4	4,5	5
Slow improvement	2,5	3	3,5	4	4,5
Maintain	2	2,5	3	3,5	4
Slow deterioration	1,5	2	2,5	3	3,5
Sudden deterioration	1	1,5	2	2,5	3

Source: Pantea M, 2003 :133 [3]

- $p_i$  is the weight of importance given to each selected criterion;
- $N_i$  consists in the points corresponding to each selected criterion according to the state and its trend.

- Interpreting the rating score of each diagnosed area by using the table below:

Table 2 **Rating score of investigated areas of activity by state and SWOT classified**

State of indicators	Rating score- $\bar{N}$	SWOT Classified
Forte	5	VERY STRONG
Very good	4,5	
Good 4		STRONG
Satisfying	3,5	
Medium-accepted	3	UNCERTAIN
Unsatisfying	2,5	
Weak	2	weak
Very weak	1,5	
Critical	1	

Source: Pantea M, 2003:133 [3]

- Determining the global rating of business as follows:

$$R = \sum_{i=1}^n p_{ix} \bar{N}_i \text{ where,}$$

- $R$  is the global rating (the global score) of business company;
- $p_i$  is the weight of importance given to each investigated areas;
- $N$  is the rating score determined for each of the six investigated areas; it is calculated above at the f) step.

Depending on the values of  $R$ , the global rating of a company classifies the global diagnosis of the companies as follows:

- Rating Class A- Very Good diagnosis, if  $4,5 \leq R \leq 5$  reflecting very good performances and a very high level of trust by stakeholders.
- Rating Class B – Good Diagnosis, if  $3,5 \leq R < 4,5$ , reflecting good performances and a high level of trust by stakeholders.
- Rating Class C- Uncertain Diagnosis, if  $2,5 \leq R < 3,5$ . In this case, the business facing some problems, the opportunities for growth are uncertain, the possibilities of recovery are reduced.
- Rating Class D - Poor diagnosis, if  $1,5 \leq R < 2,5$ . In this case, the business faces major problems, the risks are high, the degree of confidence of the stakeholders is reduced.

e) Rating Class E- Critical diagnosis, if  $1 \leq R < 1,5$ . In this case, the problems of the company are very serious, it is facing financial bottlenecks and there is a risk of imminent bankruptcy.

## RESULTS AND DISCUSSIONS

We exemplify the assessment of a global diagnosis for a case of a Romanian company, namely Alro Company. Nowadays, Alro Company is one of the largest metallurgical companies in Romania, with a significant contribution to the local and national economy.

Established in 1965, Alro is the only producer of primary aluminum and aluminum alloys in Romania with the largest smelter in Central and Eastern Europe. [4]

After investigating the last five years of activity (2008-2012) for the diagnosis components that compose the company's global diagnosis, we obtain the following results:

**Legal framework diagnosis** of Alro Company is focused on the following results strengths and weaknesses:

**Strengths:** There exist Bylaw Statute, General Shareholders Meeting Registers, Register of Shareholders, The Annual Report of **Board Members**; Company contracts the property insurance; There are Collective Bargaining and individual employment contracts and administration; Contract terms are largely respected; Company complies with tax law (tax distortions are insignificant).

**Weaknesses:** There are seven commercial litigation including five cases of bankruptcies, there are 15 labor litigation, of which three cases are in stage of enforcement.

Evaluating various aspects identified above we find out a score of 4,4 points which reflects that the legal diagnosis component of Alro Company consists in a STRONG area.

**The commercial diagnosis** of Alro Company shows the following results:

**Strengths:** Over 50 years experience and market leader, the company has continuously diversified the production, its products are appreciated both on the Romanian market and abroad; Volume of production of 100000 MT/y makes ALRO a major player on the market.

There are traditional relationships with a wide range of users, both from Romania and from around the world. Over 80 percents of Alro production is traded on the international market by the London Metal Exchange based on direct long-term contracts with customers in 25 countries of the world (Italy, Greece, Austria, Hungary, etc.). Also Turkey, the Balkan countries and the United States of America are the main markets for Alro products. Aluminum demands have the potential to increase based on demand of construction and automotive sectors. In Eastern Europe, Romania except Russia, has the largest production capacity.

Alro location allows an excellent logistics for any mean of transportation: Truck, Rail, River (Danube), and Sea (Black Sea, Med Sea)

The quality of the production is very good, which causes the foreign partners to prefer Romanian aluminum. They give discounts and assistance in choosing products. Another way through which Alro maintains its traditional customers is providing discounts and assistance in choosing products.

**Weaknesses:** The closure of 20 percent of production capacities; Increase in costs production due to renegotiation of contracts with Hidroelectrica- the main supplier of electricity (price for electricity is 70 percent higher); The existence of litigation in relation with customers; The dependence between economic and financial outcomes and the aluminum prices evolution on the international market.

Given the assessment scores on different strengths and weaknesses of the commercial areas presented above, we find out a commercial diagnosis score of 4,7 points, which highlights a VERY STRONG commercial activity.

### **Diagnosis of management, organization and human resources**

**Strengths:** Alro has engaged to achieve the high standards of corporate governance and believes that a good corporate governance provides clarity relations between shareholders, board of directors and executive management. Providing a clear framework based on transparency and clear principles helps maximize the long-term shareholder value; Training, skills, good experience and dynamic management team; The informational system is well structured; The best practice principles have been adopted; the human resources are well qualified; Work Safety is appropriate.

**Weaknesses:** A high level of staff turnover.

Assessing the performance criteria selected for this area we obtain a score of 4,65 points which also highlights a VERY STRONG diagnosis of management, organization and human resources.

### **Diagnosis of technique, technologies and exploitation**

**Strengths:** Alro has a strong team of specialists in the field of quality; The manufacturing process and Alro products are certified according to ISO9001, ISO14001 and ISO 18001 (OHSAS 18001); The industrialization is high, which gives a very low degree of assets depreciation, below 20 percent; Alro invested last years about 245 million dollars in the modernization and development of infrastructure.

**Weaknesses:** The level of raw materials residues is still high.

The final score is 4,6 points, which gives to technical, technological and exploitation diagnosis a VERY STRONG area in Alro business.

### **Diagnosis of the financial state**

**Strengths:** Very good level of liquidity and solvability ratios; The activity is profitable (revenues are higher than expenses over the analysed years); The financial dependency is safety; A very good state of financial equilibrium; Economic and financial risks are reduced;



ALRO always pays on time using any financial means, including letters of credit issued by the most important European banks

**Weaknesses:** The financial activity registers losses; Reducing in stock market performances since the context of financial crisis generated a decrease in share price of entire market.

With a score of 3,98 points determined for Alro's financial state, the company is classified as a **STRONG** point reflecting a good level of financial state.

**Diagnosis of sustainable performances** highlights the following strengths:

- a) In relationship with suppliers and customers Alro manifests traditional and transparent relationships and minimize the impact of Alro's operations on the environment.
- b) In relationship with employees, Alro is convinced that its employees are the most important value of the company, and their safety is a priority. Alro's employees are optimally equipped with all necessary protection equipment and attend ongoing training programs to ensure safety on the job. The company is developing a system of occupational trauma prevention and early identification and elimination of occupational hazards and risks involving broad staff participation and use of state-of-the-art methods. The company seeks to ensure that work conditions at its facilities are in compliance with the applicable international standards. Therefore the company is constantly improving working conditions to the highest standards and OHSAS 18001 certificate that Alro Company held, is testament to this. Employee motivation in the metallurgical industry is a priority issue for all Romanian metallurgical companies. [5]
- c) In relationship with the community, Alro is committed to improving the quality of life for its employees as well as for those who live in the surrounding areas. As part of this commitment, the Company works closely with the local community to identify the areas in which support is needed. Alro, actively participate in community life through our corporate responsibility programs, from rebuilding homes destroyed by natural disasters, to education, sports and health. Alro received the Excellency Award in Corporate Social Responsibility from the Romanian Chamber of Commerce and Industry, in recognition of its contributions to economic development in Romania and regionally, with particular emphasis on its forward-looking environmental orientation as well as its focus on training programs and social responsibility.
- d) In relationship with the environment:

In 2005, Alro, became one of the first companies in Romania to receive an Environmental Authorization for more than ten years running, in recognition of its strong long-term investment plan in environmental projects, now worth over USD 20 million. The Environmental Authorization certifies that all the emissions created by

the Company are in full compliance with European Union standards.

Because of a special concern towards the adoption of CSR in relation to employees and the community the score obtained is a maximum one (5 points) compared to the competitors, which reflects a **VERY STRONG** area of business for Alro Company.

## CONCLUSIONS

Our proposed model has the advantage of evaluating the investigated aspects both as qualitative (by using SWOT analysis) and quantitative (by using the evaluation grids method), on a Likert scale with 5 levels (minimum 1 and maximum 5).

We performed a diagnostic synthesis of the six areas investigated in a largest metal Romanian company namely Alro Company. By using equal weights of importance for the six areas investigated, we found out a final rating of 4,55 points which falls Alro Company in the Rating Class **A** of diagnosis reflecting a **VERY STRONG** diagnosis. The Alro's business reflects a very good economic and financial condition and the development potential is very high.

As the main opportunity for further development of the company we can mention the innovation management as Bakalarkzyk et al.(2014) highlights for the specific case of metallurgical companies. [6]

The threats to which Alro company is exposed are generally available for the entire Romanian metallurgical sector, namely: National and international competition; The pressure of the Chinese economic model that fails to provide the lowest prices; An unstable political, and fiscal environment; Economic and financial crisis that threatens the entire economy and has affected the European steel demand by a decrease of 30 percent, compared to the pre-crisis period; the increase in electricity price is affecting all high energy industries including metallurgy.

## REFERENCES

- [1] M. Siminică, Financial diagnosis of a company Publishing House Universitaria Craiova, 2008.
- [2] I. Moldovan, Metallurgical Industry of Romania, former glory, further ruin of the national economy, Turda News Magazine, March 2013.
- [3] M. Pantea, Strategic analysis- support of investment decisions, Publish House Mirton, Timisoara, 2003.
- [4] www.alro.ro
- [5] V. A. Popescu, Gh.N. Popescu, C.R. Popescu, The economic and social dimensions of Romania's metallurgical industry, *Metalurgija*, 53 (2014) 1, 113-115.
- [6] S. Bakalarkzyk, P. Pomtalski, A. Samolejova, Innovation management in metallurgical enterprises, *Metalurgija*, *Metalurgija*, 53 (2014) 1, 123-126.

**Note:** The responsible translator for English language is D. Zelter, lecturer from Babeş-Bolyai University, Cluj-Napoca, Romania